

Docket 79496XN-R Customer Noz01333

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of Michael J. Siwinski, et al

A PRINTER AND METHOD THEREFOR ADAPTED TO SENSE DATA UNIQUELY ASSOCIATED WITH A CONSUMABLE LOADED INTO THE PRINTER

Serial No. US 09/334,375

Filed 16 June 1999

Commissioner for Patents Box AF Washington, D.C. 20231 Group Art Unit: 2853

Examiner: Blaise Mouttet

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Sir:

APPEAL BRIEF TRANSMITTAL

Enclosed herewith in triplicate is Appellants' Appeal Brief for the aboveidentified application.

The Commissioner is hereby authorized to charge the Appeal Brief filing fee to Eastman Kodak Company Deposit Account 05-0225. A duplicate copy of this letter is enclosed.

Respectfully submitted,

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Enclosures

Attorney for Appellants Registration No. 24,516



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Marilyn Rogers

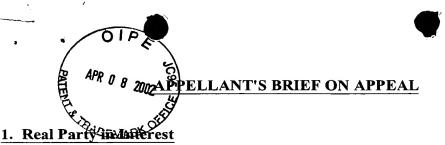
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APPEAL BRIEF

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EASTMAN KODAK COMPANY
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Eastman Kodak Company is the real party in interest.

2. Related Appeals and Interferences

No appeals or interferences are known which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

3. Status of the Claims

Claims 1-3, 6, 8-21 and 26-54 are pending in the application.

Claims 4, 5,7 and 22-25 have been canceled.

Claims 1-3, 6, 8-21 and 26-54 stand rejected under 35 USC 103:

Claims 50 and 51 also stand rejected under 35 USC 102.

Appendix I provides a clean, double spaced copy of the claims on appeal.

4. Status of Amendments

No amendments have been made subsequent to the final rejection.

5. Summary of the Invention

The present invention relates to printer apparatus that is adapted to sense data uniquely associated with an ink containing consumable loaded into the printer and to methods operational in a printer for sensing data uniquely associated with an ink consumable loaded into the printer. As may be noted from Figure 1, an ink jet printer is shown that has been adapted to a sense data uniquely associated with consumables loaded therein. Within the printer 10, there are provided ink reservoirs 14a-d, a cleaning fluid bottle 16, and a waste bottle 18. With reference to Figure 2, and note also supporting description on specification page 9, it will be seen that certain hardware components adapt the printer for sensing consumable ink in ink reservoirs 14a-d. In this regard, an RF transceiver 50 is connected by a multiplexing switch 58, to antennae 56 a-h. Multiplexing switch 58 allows transceiver 50 to communicate independently with the multiple antennae. The transponder 54 a-h is configured to be attached to or dispose within ink reservoirs 14 a-b, cleaning fluid bottle 16, printhead

22, waste bottle 18, etc.

6. Issues for Review by the Board

The following issues are presented for review by the Board of Patent Appeals and Interferences:

- 1. Are claims 1-3, 8-10, 13, 16, 19-21, 26-28, 31, 34, 37-48, 52 and 53 unpatentable under 35 USC 103 over Purcell et al. (U.S. 6227643B1) in view of Cardullo et al. (U.S. 3713148)?
- 2. Are claims 6, 11, 12, 14, 15, 17, 18, 29, 30, 32, 33, 35, 36 and 49-51 unpatentable under 35 USC 103 over Purcell et al. in view of Cardullo et al. and further in view of Mochizuki et al. (U.S. 5266975)?
 - 3. Are claims 50 and 51 anticipated by Hassett (U.S. 5347271)?
 - 4. Is claim 54 unpatentable over Purcell et al. in view of Mallory (U.S. 3580565)?

7. Grouping of Claims

In regards to patentability, unless otherwise indicated, the claims within each group do not stand or fall together. Reasons supporting appellant's position that the claims in each group are separately patentable are provided in paragraph 8 (ARGUMENTS) in accordance with rule 1.192 (c) (7).

Group A- Claims 1-3, 8-10, 13, 16, 19-21, 26-28, 31, 34, 37-48, 52 and 53. The patentability of claim 13 stands or falls with that of claim 8. The patentability of each of claims 20 and 21 stands and falls with that of claim 19. The patentability of claim 31 stands or falls with that of claim 26.

Group B- Claims 6, 11, 12, 14, 15, 17, 18, 29, 30, 32, 33, 35, 36 and 49-51.

Group C- Claims 50 and 51 with regard to the rejection of anticipation.

Group D- Claim 54.

8. Arguments

A. Claims 1-3, 8-10, 13, 16, 19-21, 26-28, 31, 34, 37-48, 52 and 53 are not unpatentable under 35 USC 103(a) in view of Purcell et al. taken with Cardullo et al.

The initial burden of establishing a prima facie basis to deny patentability to a claimed invention rests upon the Examiner. If examination at the initial stage does not produce a prima facie case of unpatentability, then without more the applicant is

entitled to grant of the patent. In re Oetiker, 24 USPQ 2d 1443-44 (Fed. Cir. 1992). The Examiner is required to explain why one having ordinary skill in the art would be lead to modify and/or combine the applied prior art to arrive at the claimed invention. Uniroyal Inc. v. Rudkin-Wiley Corp., 5 USPQ 2d 1434 (Fed. Cir. 1988). Indeed, it is appellants position that obviousness cannot be established by combining the teachings of the prior art to produce a claimed invention, absent some teaching or suggestions supporting the combination. Appellant submits it is well-settled that the teachings of references can be combined only if there is some suggestion or incentive to do so. See In re Keller, 642 F.2d 413,425 (CCPA 1991); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572 (Fed Cir. 1984).

Claim 1 is directed to a printer which selectively deposits a color ink onto a receiver to form an image on the receiver. The printer is adapted to sense and update data uniquely associated with an ink containing consumable loaded into the printer, such as an ink cartridge for example. The printer includes a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field. The first electromagnetic field contains data for writing into a memory associated with the ink containing consumable. The transponder is coupled to the ink containing consumable and is adapted to receive the first electromagnetic field and generate a second electromagnetic field. The transponder is adapted to read data from the memory and write updated data to the memory in accordance with an instruction code from the transceiver in the first electromagnetic field. In the prior art reference of Purcell et al. there is no teaching or suggestion of the feature of the use of the code in the first electromagnetic field to determine whether data is read or written to the memory. Additionally, the Examiner recognizes that Purcell fails to teach the use of this type of memory for use with an ink containing consumable. At best Purcell et al. recognizes that a roll of media, and not an ink containing consumable, can include a memory element that could be a passive RF ID tag device. However, in Purcell et al. where discussion is provided with regard to the ink containing consumable there is no suggestion that this type of device would be useful for association with an ink containing consumable. Recognizing this deficiency in the teaching of Purcell et al. the Examiner is required to go far afield from the printer arts to include a secondary reference of Cardullo et al. In this regard discussion in Cardullo et al. is with regard to possible use of a transponder system in a railroad or automotive highway toll use. It is respectfully submitted that Cardullo et al. is nonanalogous prior art to the field of printing. It is submitted that there is no disclosure in Cardullo et al. nor in Purcell et al. of use of the type of memory for an ink cartridge consumable as described in claim 1. There is further no description in either Purcell et al. or in Cardullo et al. of this type of memory for any ink containing consumable wherein an instruction code determines whether data is to be read from memory or updated data is to be written to the memory in accordance with the instruction code. Furthermore, there is no description in either of these references or a suggestion thereof that there is associated with any ink containing consumable loaded into a printer wherein the electromagnetic field that is generated by the transceiver comprises the only energy for powering a transponder.

Claim 2 is a dependent claim of claim 1 and adds the feature that the transceiver transmits the first electromagnetic field at a predetermined first radio frequency. Again, this is not a feature disclosed by Purcell et al. and/or Cardullo et al. with regard to an ink containing consumable that is loaded into a printer. Since this feature is not disclosed nor suggested by the combination of Purcell et al. and Cardullo et al. it is submitted that claim 2 is also patentable over this combination of references.

Claim 3 is a dependent claim of claim 2 and adds the feature that the transponder transmits the second electromagnetic field at a predetermined second radio frequency. There is no disclosure in Purcell et al. and/or Cardullo et al. with regard to an ink containing consumable that is loaded into a printer that includes a transponder having the features described in claim 3.

Claim 8 is an independent claim that is directed to a printer that is adapted to sense data uniquely associated with a printer consumable to be loaded into the printer. The printer comprises a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field. A first transponder including a first memory is coupled to a first consumable used by the printer and a second transponder including a second memory is coupled to a second consumable used by the printer. The transceiver is adapted to alternately communicate with the first and second transponders. While Purcell et al. does disclose a memory that is associated with a roll of print media that uses electromagnetic field generation for communication, there is no indication in Purcell et al. of use of a transceiver that is capable of communicating with multiple transponders for different consumables. The Examiner's position relative to claim 8 is that various memory elements may be

attached to consumables and alternately polled and communicated with by any processor. However, there is no teaching that at least two transponders are capable of receiving the first electromagnetic field and generating a second electromagnetic field in response to the first electromagnetic field received thereby. Thus, claim 8 is patentable over the combination of Purcell et al. in view of Cardullo et al.

Claim 9 is a dependent claim of claim 8 and adds the feature that the first memory is coupled to a first consumable that is a receiver media consumable and wherein the second memory is coupled to a second consumable that is an ink consumable. As noted above, the combination of Purcell et al. and Cardullo et al. do not disclose or suggest the feature of an ink consumable that can be communicated with a transceiver. There is merely disclosure in Purcell et al. of a roll media consumable that can include in RF

Claim 10 is a dependent claim of claim 8 and adds the feature that wherein the first memory is coupled to a first consumable that is a printhead consumable and wherein the second memory is coupled to a second consumable that is an ink consumable. As noted above this is not a feature suggested or rendered obvious by the combination of Purcell et al. taken with Cardullo et al. Neither of these references show the use of multiple consumables that use the first and second transponders respectively as described in claim 10.

The patentability of claim 13 stands and falls with that of claim 8.

Claim 16 is a dependent claim of claim 13 and adds the feature that the first memory is coupled to a first consumable that is a printhead consumable, the second memory is coupled to a second consumable that is an ink consumable and wherein the third memory is coupled to a third consumable that is a receiver media consumable. As noted above the combination of Purcell et al. taken with Cardullo et al. merely discloses that a single roll media consumable may be used in a printer but does not feature or discuss the nature of multiple consumables having different transponders including different memories and a transceiver that can communicate with each of these transponders by a first electromagnetic field.

Claim 19 is a method claim that is operational in a printer which operates to selectively deposit ink onto a receiver to form an image on the receiver. The method is directed to sensing data uniquely associated with **an ink consumable** loaded into the printer. The method of claim 19 includes the steps of operating a transceiver to

transmit a first electromagnetic field including a code providing a command to read or write data and providing a transponder associated with the ink consumable that generates a second electromagnetic field in response to the code in the first electromagnetic field providing a command to read data from the memory. The second electromagnetic field carries information relative to data stored in the memory, the memory being coupled to the transponder and has data stored therein uniquely associated with the ink consumable. The transponder, in response to a code providing a command to write data, provides a signal to the memory to apply information from the first electromagnetic field to the memory. As noted above Purcell et al. is directed to a roll media device and features an RF ID tag. There is no indication in this patent of using the type of transceiver and transponder operating according to the steps described in claim 19 for an ink consumable. Nor does Cardullo et al., which is noted above is directed to the transportation business, add any additional subject matter to Purcell et al. that would render claim 19 obvious to one of ordinary skill in the art.

The patentability of each of claims 20 and 21 stands and falls with that of claim 19.

Independent claim 26 is directed to operation of a printer and a method of sensing data uniquely associated with a printer consumable loaded into the printer. The method comprises the steps of providing a transceiver for transmitting a first electromagnetic field and to sensing a second electromagnetic field. Providing a first transponder including a first memory coupled to a first consumable. Additionally a second transponder is provided that includes a second memory coupled to a second consumable. Each of the memories includes data stored therein indicative of the type of consumable and the transceiver polls the respective transponders so that each of the transponders is responsive to a respective first electromagnetic field emitted by the transceiver and each transponder generates a second electromagnetic field in response to the respective first electromagnetic field received thereby. The Examiner's indication that Purcell et al. features various memories that can be alternately polled and communicated with by a processor is not pertinent to the steps recited in claim 26. There is no indication that in Purcell et al. there are multiple transponders that have the features recited in claim 26 and which are responsive to an electromagnetic field. Cardullo et al. does not relate to the printer field, nor does it relate to printer consumables. As non-analogous art Cardullo et al. is not combinable with Purcell et al.

Claims 27, 28 and 34 are dependent method claims dependent, either directly or indirectly, upon claim 26. Each of these claims recites the additional feature of providing a second transponder that includes a second memory coupled to a consumable that is an ink consumable. As noted above there is no disclosure in either of Purcell et al. or Cardullo et al. of this feature.

The patentability of claim 31 stands or falls with that of claim 26.

Claim 37 is a dependent claim of claim 19 and adds the feature that the transponder receives energy from a first electromagnetic field as the only energy for powering the transponder. As noted with regard to discussion of claim 19, claim 19 is directed to a method that features an ink consumable having a transponder associated therewith. There is no indication in Purcell et al. or Cardullo et al. of an ink consumable wherein the transponder receives energy from the first electromagnetic field as the **only** energy for powering the transponder.

Claim 38 is a dependent claim of method claim 37 and adds the feature that the device associated with the consumable has a sensing mechanism and the sensing mechanism indicates the amount of consumable used or remaining and this amount is stored in the memory. Bear in mind that claim 19 is directed to an ink consumable and there is no disclosure in Purcell et al. or Cardullo et al. for such a mechanism with regard to ink and wherein the transponders is also associated with the ink consumable.

Claim 39 is a dependent claim of claim 37 and adds the additional feature that the transceiver communicates with the transponder without making touching contact with the transponder. Again, there is no disclosure in Purcell et al. or Cardullo et al. which would render such combination obvious in terms of use with an ink consumable.

Claim 40 is a dependent claim of claim 37 and adds the feature wherein the memory is a non-volatile semiconductor memory that is integrally contained in the transponder. This claim also is patentable over the combination of Purcell et al. and Cardullo et al., because as a dependent claim of claim 37 the recited transponder receives energy as the **only** energy for powering the transponder and the transponder is associated with an ink consumable.

Claim 41 is a dependent claim of claim 37 and additionally adds the feature that the transceiver senses the second electromagnetic field and extracts the data content for subsequent processing in operating the printer. As a dependent method claim of claim 37, claim 41 includes the feature of a transponder that is associated

with an ink consumable and the transponder receives energy from the first electromagnetic field as the only energy for powering the transponder. There is no indication in Purcell et al. of a transponder that has these features. Cardullo et al. is noted above is related to the transportation business and not to printing.

Claim 42 is a dependent claim, dependent upon claim 37, and adds the feature that the transceiver addresses the transponder to write data to the memory associated with the consumable and wherein the data is indicative of usage of the consumable. As a dependent claim of claim 37, claim 42 includes the feature of the transponder that receives its energy from electromagnetic field as the only energy for powering the transponder and is directed to a consumable that is an ink consumable. There is no description in Purcell et al. or Cardullo et al. of a transponder operating in accordance with these recited features that would render this claim obvious in view of these two references.

Claim 43 is an independent claim directed to an ink container that includes an ink consumable for use in the printer. The container includes the transponder and memory specially adapted for use in the method of claim 19. The memory is coupled to the transponder and has data stored therein and uniquely associated with a consumable used in the printer. The transponder is adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprises the only energy for powering the transponder. The code indicates a read or write command for the memory. The energy is usable in accordance with a read code to generate signals representing data stored in the memory about the consumable and for a write code to write information into the memory providing a data of an amount of consumable used or remaining. The memory stores an update of the consumable used from or remaining in the container. As noted above there is no discussion in Purcell et al. or Cardullo et al. of a container that includes an ink consumable for use in a printer that includes a transponder having the features described in claim 43. There is no discussion in either of these references of read or write codes operational with a transponder associated with a container that includes an ink consumable. The Examiner specifically notes that Purcell et al. fails to disclose a read/write memory elements on the ink consumables that are radio frequency transponders as claimed by applicant. While the Examiner does note that Cardullo et al. discloses a transponder system apparatus there is no indication that there is any motivation in the references for combining them to be associated with an ink

consumable. It is noted that while Purcell et al. discloses an RF ID tag associated with the roll media, it was clearly not obvious to Purcell himself to use transponders for the ink consumable. It appears that the Examiner has used hindsight to reconstruct Purcell with older technology gleaned from Cardullo et al. which could only have been obvious after reading applicants' specification.

Claim 44 is a dependent claim of claim 37 and adds the feature that wherein in response to the information carried by the second electromagnetic field the control logic in the printer determines the type of consumable that is loaded in the printer. Claim 37 recites the feature that the first electromagnetic field provides the only energy for powering the transponder. Claim 19 from which claim 44 is indirectly dependent recites that the consumable is an ink consumable loaded into the printer. There is no description or suggestion in the prior art and particularly Purcell et al. and Cardullo et al. references of determining the type of ink consumable loaded in the printer.

Claim 45 is a dependent claim of claim 44 and adds the feature that the control logic determines manufacturing date and batch number from the information carried by the second electromagnetic field. There is no indication in Purcell et al. of this feature for an ink consumable and Cardullo et al. as noted above relates to the transportation field and there is no description or suggestion of this feature in this reference either.

Claim 46 is a dependent claim of claim 37 and adds the feature that the memory stores calibration data relative to the consumable. As noted above the consumable is an ink consumable and claim 37 is directed to the feature that the transponder receives energy from the first electromagnetic field as the **only** energy for powering the transponder. Again, this is not feature that is suggested or rendered obvious by the two references cited by the Examiner to reject this claim.

Claim 47 is a dependent claim of claim 37 and recites the feature that the memory stores sensitometric data relative to the consumable. The use of a printer having an ink consumable that features a transponder that receives all its energy from an electromagnetic field from the transceiver and stores information of sensitometric data relative to the consumable is submitted to be unobvious over the combination of Purcell et al. and Cardullo et al. While the Examiner has referred generally to column 10 of Purcell et al. it is submitted that there is no indication therein of the teaching of providing the memory with sensitometric data.

Claim 48 is a dependent claim of claim 37 and adds the feature that a determination is made as to whether or not a printer is compatible with the consumable and if the printer is not compatible with the consumable print operation is disabled. There is no description in Purcell et al. for an ink consumable that has a memory associated therewith and which is controlled by a transponder that receives its energy from a transceiver to operate the memory.

Claim 52 is a dependent claim of claim 19 and adds the feature that the first electromagnetic field includes data regarding a current level of ink consumable and the data regarding current level of the consumable is written to the memory. As noted above neither Purcell et al. nor Cardullo et al. are directed to an ink consumable that includes a transponder associated with the ink consumable that features operation of electromagnetic fields that includes codes for determining reading and writing information into a memory.

Claim 53 is also a dependent claim of claim 19 and adds the feature that the transceiver is blocked from overwriting of certain stored data into the memory. With regard to this feature the Examiner has referred to Purcell et al. at column 6, lines 4-15. However, this description is related to a memory component that is hard wired as traces and does not form part of a transponder that is responsive to a code in a first electromagnetic field providing a command to read data from the memory. It is further not seen how the memory that is hard wired can be written to in response to a command signal to the memory to apply information from the electromagnetic field into the memory. The Board is respectfully requested to consider claim 53 in combination with claim 19 from which claim 53 depends.

B. Claims 6, 11, 12, 14, 15, 17, 18, 29, 30, 32, 33, 35, 36 and 49-51 are not unpatentable under 35 USC 103 (a) over Purcell et al. in view of Cardullo et al. and further in view of Mochizuki et al.

At the outset it will be noted that there appears to be error in the final rejection with regard to introduction of a reference entitled Garcia et al. which appears to be intended to be Mochizuki et al. The assumption herein will be that wherever Garcia et al. is referred to that Mochizuki et al. is intended.

Claims 6 is an independent claim directed to a printer of the type which selectively deposits a color marking material onto a receiver. The printer is adapted to sense and update data uniquely associated with a cleaning fluid consumable loaded

into the printer. Specifically claim 6 comprises a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field the first electromagnetic field containing data for writing into a memory associated with the cleaning consumable. The transponder is coupled to the cleaning fluid consumable and the transponder is adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby. Notably the energy of the first electromagnetic field comprises the only energy for powering the transponder and the transponder is adapted to read data from the memory and write updated data to the memory in accordance with an instruction code from the transceiver in the first electromagnetic field. Purcell et al. does not discuss the feature of a cleaning fluid consumable having a transponder coupled thereto. Cardullo et al. as noted above is directed to the transportation field and is nonanalogous art and thus not prior art. Mochizuki et al. teaches a memory circuit that is provided for storing data representing the quantity of waste ink sucked out by a suction pump. The memory stores the number of times ink suction is provided and the quantity of discharge. It is submitted that the Examiner has failed to set forth a prima facie case of obviousness based on the combination of these three references. It is respectfully submitted that the Examiner has used applicants' description as a road map to assemble disparate references which constitutes an improper hindsight. rejection of the claim. There is no indication in this combination of references to provide the cleaning fluid consumable with the type of transponder taught in applicants' specification that receives its only energy for powering thereof from the electromagnetic field of the transceiver.

Claim 11 is a dependent claim of claim 8 and is directed to a printer that is adapted to sense data uniquely associated with a printer consumable to be loaded into the printer. The printer comprises a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field. The first transponder includes a first memory coupled to a first consumable used by the printer. The second transponder includes a second memory coupled to a second consumable used by the printer. The transceiver is adapted to alternately communicate with the first and second transponders. The first memory is coupled to a first consumable that is an ink consumable and the second memory is coupled to a second consumable that is a cleaning fluid consumable. It is respectfully submitted that this feature of claim 11 is also not rendered obvious by the combination of Purcell et al. taken with

Cardullo et al. and Mochizuki et al. There is no indication in this combination of references of using plural transponders each having a respective memory related to a printer consumable. There is further no indication in this combination of references that one of the consumables is to be a cleaning fluid consumable. There is further no indication in this combination of references of a transceiver that is adapted to alternately communicate with the first and second transponders. For the above reasons it is respectfully submitted that claim 11 is also patentable over this combination of three references.

Claim 12 is also submitted to be patentable over the combination of these three references. Claim 12 is a dependent claim of claim 8 and adds the feature that the first memory is coupled to a first consumable that is a print head consumable and wherein the second memory is coupled to a second consumable that is a cleaning fluid consumable. The arguments relative to claim 11 are pertinent to that of claim 12 as well and thus claim 12 is submitted to be patentable over the combination of Purcell et al. taken with Cardullo et al. and Mochizuki et al.

Claim 14 is a dependent claim of claim 13 which in turn is dependent upon claim 8. Claim 14 is directed to a printer having the features described above with reference to the arguments pertaining to patentability of claim 11. However, claim 14 recites a printer that includes three memories associated with three different consumables. The first consumable is a receiver media consumable. The second memory is coupled to a second consumable that is a print head consumable. The third memory is coupled to the third consumable that is a cleaning fluid consumable. The arguments for patentability of claim 11 are also relevant to that of claim 14 and additionally the feature of the three different types of memories having three different transponders also renders claim 14 patentably distinct from claim 11. As noted above there is no description of plural transponders which operate with a transceiver as is being claimed in claim 14.

Claim 15 is a dependent claim of claim 13 and adds the feature that the first memory is coupled to a first consumable that is a print head consumable. The second memory is coupled to a second consumable that is an ink consumable and the third memory is coupled to a third consumable that is a cleaning fluid consumable. Arguments relative to patentability of claims 11 and 14 are pertinent to the patentability of claim 15. It being pointed out again that there is no description in the

cited combination of the three references of plural transponders which operate with a transceiver as is being claimed in this claim as well.

Claim 17 is a dependent claim of claim 13 and adds the feature that a fourth transponder includes a fourth memory coupled to a fourth consumable. The fourth memory has data stored therein indicative of type of consumable. There is no indication in the three references that have been combined to reject this claim of a printer system that includes a number of transponders that are associated with a transceiver such that the transceiver is adapted to alternately communicate with plural transponders as is being claimed.

Claim 18 is a dependent claim of claim 17 and adds various details regarding identification of the consumables and that a fourth transponder includes a memory that is coupled to a fourth consumable that is a cleaning fluid consumable. Again, there is no indication in the combination of references cited by the Examiner of providing multiple transponders each having a memory and each being associated with a transceiver that is adapted to alternately communicate with the different transponders.

Claim 29 is a dependent claim of claim 26 and is directed to a method of sensing data uniquely associated with a printer consumable loaded in a printer. The transceiver is provided for transmitting a first electromagnetic field and for sensing a second electromagnetic field. The first transponder includes a first memory coupled to a first consumable. The second transponder includes a second memory coupled to a second consumable. Each of the first and second memories have data stored therein indicative of type of consumable. The transceiver polls the respective transponders so that each of the transponders is responsive to a respective first electromagnetic field emitted by the transceiver. Each transponder generates a second electromagnetic field in response to the respective first magnetic field received thereby. The second electromagnetic field is sensed by the transceiver and is a characteristic of data stored in the respective memory. The first memory is coupled to a first consumable that is an ink consumable. Claim 29 further comprises providing a second transponder that includes a second memory coupled to a second consumable that is a cleaning fluid consumable. As noted in the discussion relative to patentability of claim 26, which discussion is incorporated herein, there is no indication with regard to these references of **polling** different transponders in a printer. There is further no indication in these references of using a transponder associated with a cleaning fluid consumable. It is

again respectfully submitted that the Examiner has impermissibly used a hindsight reconstruction of the prior art to reject applicants' claims.

Claim 30 is a dependent claim of claim 26 and adds the feature that the step of providing a first transponder comprises providing a first transponder that includes a first memory coupled to a first consumable that is a print head consumable. The step of providing a second transponder comprises providing a second transponder that includes a second memory coupled to a second consumable that is a cleaning fluid consumable. The reasons for patentability of claim 29 are also pertinent to that of claim 30.

Claim 32 is a dependent claim of claim 31 which in turn is dependent upon claim 26. Claim 32 is directed to a method wherein three transponders each including a memory are coupled to a respective consumable namely a receiver media consumable, a print head consumable and a cleaning fluid consumable. The reasons for patentability of claim 29 are also pertinent to that of claim 32, that is there is no teaching in this combination of references of using a transceiver that polls the various transponders for determining data in the various respective memories.

Claim 33 is a dependent claim of 31 and identifies the various consumables that are associated with various transponders. The first consumable comprises a print head consumable, the second consumable comprises an ink consumable and a third consumable comprises a cleaning fluid consumable. Each of the transponders includes a memory coupled to the respective consumable. Claim 31 in turn is dependent upon claim 26 which as noted above recites the feature of a transceiver that polls the respective transponders so that each of the transponders is responsive to a respective first electromagnetic field. There is no teaching in this combination of three references of using a transceiver that polls the various transponders for determining data in the various respective memories. Furthermore, there is no indication in the cited three references of prior art of using a cleaning fluid consumable that has an associated memory that can be polled by a transceiver.

Claim 35 is a dependent claim of claim 31 and further comprises the step of providing a fourth transponder including a fourth memory coupled to a fourth consumable the fourth memory having data stored therein indicative of type of consumable. Claim 31 is in turn dependent upon claim 26 which as noted above recites the feature of polling the various memories using an electromagnetic field

from a transceiver. This is not a feature disclosed or rendered obvious by the combination of three references cited by the Examiner.

Claim 36 is a dependent claim of claim 35 and further identifies the various four consumables including a cleaning fluid consumable. It is submitted that the reasons for patentability of claim 33 are also pertinent to the patentability of claim 36. Claim 36 like claim 33 is ultimately dependent upon claim 26 which as noted above includes the polling feature which is not taught by the combined references of Purcell et al., Cardullo et al. and Mochizuki et al.

Claim 49 is a dependent claim of claim 37 which in turn is dependent upon method claim 19. The method of claim 49 is directed to a method that is operational in a printer for sensing data uniquely associated with an ink consumable loaded into the printer. The transponder is associated with the consumable and the transponder receives a first electromagnetic field and generates a second electromagnetic field in response to a code in the first electromagnetic field. The second electromagnetic field carries information relative to data stored in a memory. The data is uniquely associated with the consumable and the transponder, in response to a code providing a command to write data, provides a signal to the memory to apply information from the first electromagnetic field into the memory. The transponder receives energy from the first electromagnetic field as the only energy for powering the electromagnetic field. Claim 49 further includes the recitation that the consumable is a container for storing a waste material and the memory provides information relative to identification of the material as an aid to environmentally acceptable disposal of the waste material. The Examiner has failed to establish a prima facie case unpatentability of this claim too. There being no indication of where in the prior art this feature is disclosed or rendered obvious regarding identification of the waste material

Claim 50 is an independent claim and directed to a method for operation in a printer for sensing data uniquely associated with a waste material container loaded in the printer. In this method a transceiver transmits a first electromagnetic field that includes a code providing a command to read or write data. The transponder associated with the container includes a memory. The transponder receives a first electromagnetic field and generates a second electromagnetic field in response to the code in the first electromagnetic field that provides a command to read data from the memory. The second electromagnetic field carries information relative to data stored in the memory. The memory being coupled to the transponder has data stored therein

and uniquely associated with the waste material in the container. The transponder in response to the code provides a command to write data and provides a signal to the memory to apply information from the first electromagnetic field into the memory. This claim also has been finally rejected by the Examiner as being unpatentable over the combination of Purcell et al. in view of Cardullo et al. and Mochizuki et al. The Examiner has analogized the waste/cleaning as being the waste ink tank 23 of Mochizuki et al. However, there is no indication in this reference of the use of a transponder and transceiver as described in applicants' specification and as claimed in claim 50. There is no indication in the combination of references of using codes providing commands to write data and the Examiner has provided no indication as why such is obvious from this combination of prior art. The disclosure of Purcell et al. merely is directed to a receiver media that includes an RF ID tag. However, there is no indication in this combination of art of the subject matter of claim 50 of a transponder including memory that is associated with a container for collecting waste material.

Claim 51 is a dependent claim of claim 50 and adds the feature that the first electromagnetic field includes data regarding a current level of waste material in the container and the current level of waste material of the container is written into the memory. As a dependent claim of claim 50 claim 51 is patentable over the combination of three cited prior art references for the same reasons provided for claim 50. In addition claim 51 is patentably distinguishable from claim 50 in that claim 51 includes the various features of specifics of information that is written into the container in response to information from the first electromagnetic field.

C. Claims 50 and 51 are not anticipated by Hassett.

Hassett is directed to a hazardous waste transport management system wherein a hazardous waste is associated with vehicle mounted transponders that may receive data from sensors that monitor the load and may actuate alarms or a message display for operator intervention. There is no description in this reference of a waste container loaded into a printer as being claimed in claims 50 and 51. Both the preamble and the body of the claim refer to waste material being in the container and the preamble notes that the container is loaded into the printer. The Examiner has failed to give patentable weight to the descriptive subject matter described in the entire claim including the preamble.

The Examiner is reminded that "for a prior art reference to anticipate in terms of 35 USC 102, every element of the claimed invention must be identically shown in a single reference." In re Bond, 15 USPQ 2d 1566-67 (CAFC 1990). Therefore it is respectfully submitted that the Examiner has also failed to set forth a prima facie case of anticipation of claims 50 and 51 by Hassett.

D. Claim 54 is not unpatentable under 35 USC 103 in view of the combination of Purcell et al. taken with Mallory.

The subject matter of claim 54 is directed to a printer that is adapted to sense data uniquely associated with a receiver sheet consumable loaded into the printer. The printer comprises a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field. The first electromagnetic field contains data for writing into a memory associated with the receiver consumable. A transponder is coupled to a sheet-like member that is part of a stack of discrete receiver sheets loaded into the printer. The discrete receiver sheets comprising the consumable. The transponder is adapted to receive the energy from the first electromagnetic field that is generated by the receiver and the energy comprises the only energy for powering the transponder and the transponder is adapted to read data from the memory. Purcell et al. has been described above in detail. It being noted that there is no discussion of discrete receiver sheets in Purcell et al. The Examiner notes that Mallory teaches that print rolls and discrete print sheets are art recognized equivalents. However, there is no indication of there being a memory associated with this form of receiver media nor indication of the type of memory described in claim 54 being associated with the cut sheet type of media. It is submitted therefore that with regard to claim 54 the Examiner has failed to set forth a prima facie case of the unpatentability of this claim over the prior art. There is no teaching in Mallory et al. of motivation for combining same with Purcell et al. and providing a memory having a transponder that receives its energy solely from the electromagnetic field that is generated by the transceiver.

9. Summary

It is Appellant's position that the Examiner has not made out a prima facie case for obviousness because the references are not properly combinable. The Examiner has used certain prior art far removed from the printer arts and these are

submitted to be non-analogous and thus not prior art properly assertable against applicants' claims directed to a printer, the container for use in a printer and a method of operation in a printer. With regard to those claims rejected for anticipation it is submitted that the Examiner has failed to take into consideration the subject matter of the preamble which gives life and meaning to the rest of those claims.

Moreover, it is Appellant's position that, even if the applied references were properly combinable, Appellant's inventions represented by the pending claims would still not be met or rendered obvious. As stated hereinabove, nowhere do the applied references, either alone or in combination, teach or suggest the subject matter claimed by the claims that are subject to the final rejection.

10. Conclusion

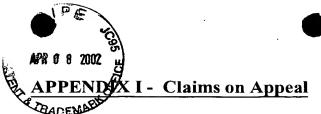
For the above reasons, appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the rejection by the Examiner and mandate the allowance of all the claims subject to the final rejection.

Respectfully submitted,

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1. A printer of the type which selectively deposits a color ink onto a receiver to form an image on the receiver, the printer being adapted to sense and update data uniquely associated with an ink containing consumable loaded into the printer, comprising:

(a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field, the first electromagnetic field containing data for writing into a memory associated with the ink containing consumable;

- (b) a transponder coupled to said ink containing consumable, said transponder adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby, the transponder adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory and write updated data to the memory in accordance with an instruction code from the transceiver in the first electromagnetic field; and
- (c) the memory associated with the ink containing consumable, the memory being coupled to said transponder, said memory having data stored therein uniquely associated with the ink containing consumable, whereby the second electromagnetic field carries the data stored in said memory while the second electromagnetic field is generated, the second electromagnetic field being characteristic of the data stored in said memory.
- 2. The printer of claim 1, wherein said transceiver transmits the first electromagnetic field at a predetermined first radio frequency.
- 3. The printer of claim 2, wherein said transponder transmits the second electromagnetic field at a predetermined second radio frequency.
- 6. A printer of the type which selectively deposits a color marking material onto a receiver to form an image on the receiver, the printer being adapted to sense and update data uniquely associated with a cleaning fluid consumable loaded into the printer, comprising:

- (a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field, the first electromagnetic field containing data for writing into a memory associated with the cleaning consumable;
- (b) a transponder coupled to said cleaning fluid consumable, said transponder adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby, the transponder adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory and write updated data to the memory in accordance with an instruction code from the transceiver in the first electromagnetic field.
- 8. A printer of the type which selectively deposits a color marking material onto a receiver to form an image on the receiver, the printer being adapted to sense data uniquely associated with a printer consumable to be loaded into the printer, comprising:
- (a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field;
- (b) a first transponder including a first memory coupled to a first consumable used by the printer, and
- (c) a second transponder including a second memory coupled to a second consumable used by the printer, each of said first and second memories having data stored therein indicative of type of consumable, so that a selected one of either of said transponders is capable of receiving the first electromagnetic field and generating a second electromagnetic field in response to the first electromagnetic field received thereby, the second electromagnetic field being sensed by said transceiver and characteristic of the data stored in said memory, the data being associated with said selected transponder generating the second electromagnetic field; and

wherein the transceiver is adapted to alternately communicate with the first and second transponders.

9. The printer of claim 8, wherein said first memory is coupled to a first consumable that is a receiver media consumable and wherein said second memory is coupled to a second consumable that is an ink consumable.

- 10. The printer of claim 8, wherein said first memory is coupled to a first consumable that is a printhead consumable and wherein said second memory is coupled to a second consumable that is an ink consumable.
- 11. The printer of claim 8, wherein said first memory is coupled to a first consumable that is an ink consumable and wherein said second memory is coupled to a second consumable that is a cleaning fluid consumable.
- 12. The printer of claim 8, wherein said first memory is coupled to a first consumable that is a print head consumable and wherein said second memory is coupled to a second consumable that is a cleaning fluid consumable.
- 13. The printer of claim 8, further comprising a third transponder including a third memory coupled to a third consumable, said third memory having data stored therein indicative of type of consumable.
- 14. The printer of claim 13, wherein said first memory is coupled to a first consumable that is a receiver media consumable, wherein said second memory is coupled to a second consumable that is a print head consumable and wherein said third memory is coupled to a third consumable that is a cleaning fluid consumable.
- 15. The printer of claim 13, wherein said first memory is coupled to a first consumable that is a printhead consumable, wherein said second memory is coupled to a second consumable that is an ink consumable and wherein said third memory is coupled to a third consumable that is a cleaning fluid consumable.
- 16. The printer of claim 13, wherein the first memory is coupled to a first consumable that is a printhead consumable, wherein the second memory is coupled to a second consumable that is an ink consumable and wherein the third memory is coupled to a third consumable that is a receiver media consumable.

17. The printer of claim 13, further comprising a fourth transponder including a fourth memory coupled to a fourth consumable, said fourth memory having data stored therein indicative of type of consumable.

- 18. The printer of claim 17, wherein said first memory is coupled to a first consumable that is a printhead consumable, wherein said second memory is coupled to a second consumable that is an ink consumable, wherein said third memory is coupled to a third consumable that is a receiver media consumable and wherein said fourth memory is coupled to a fourth consumable that is a cleaning fluid consumable.
- 19. In a printer which operates to selectively deposit ink onto a receiver to form an image on the receiver, a method for sensing data uniquely associated with an ink consumable loaded into the printer, the method comprising the steps of:
- (a) operating a transceiver to transmit a first electromagnetic field, the first electromagnetic field including a code providing a command to read or write data; and
- (b) providing a transponder associated with the ink consumable, the transponder receiving the first electromagnetic field and generating a second electromagnetic field in response to the code in the first electromagnetic field providing a command to read data from a memory, the second electromagnetic field carrying information relative to data stored in the memory, the memory being coupled to the transponder and having the data stored therein and uniquely associated with the ink consumable, and the transponder in response to a code providing a command to write data provides a signal to the memory to apply information from the first electromagnetic field into the memory.
- 20. The method of claim 19, wherein the transceiver transmits the first electromagnetic field at a predetermined first radio frequency.
- 21. The method of claim 20, wherein the transponder transmits the second electromagnetic field at a predetermined second radio frequency.

26. In a printer which operates to selectively deposit a color marking material onto a receiver to form an image on the receiver, a method of sensing data uniquely associated with a printer consumable loaded into the printer, the method comprising the steps of:

- (a) providing a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field;
- (b) providing a first transponder including a first memory coupled to a first consumable; and
- (c) providing a second transponder including a second memory coupled to a second consumable, each of the first and second memories having data stored therein indicative of type of consumable, the transceiver polling the respective transponders so that each of the transponders is responsive to a respective first electromagnetic field emitted by the transceiver and each transponder generates a second electromagnetic field in response to the respective first electromagnetic field received thereby, the second electromagnetic field being sensed by the transceiver and characteristic of the data stored in the respective memory, the data being associated with the selected transponder generating the second electromagnetic field.
- 27. The method of claim 26, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first memory coupled to a first consumable that is a receiver media consumable and wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is an ink consumable.
- 28. The method of claim 26, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first memory coupled to a first consumable that is a printhead consumable and wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is an ink consumable.
- 29. The method of claim 26, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first

memory coupled to a first consumable that is an ink consumable and wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is cleaning fluid consumable.

- 30. The method of claim 26, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first memory coupled to a first consumable that is a print head consumable and wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is a cleaning fluid consumable.
- 31. The method of claim 26, further comprising the step of coupling a third transponder including a third memory coupled to a third consumable, the third memory having data stored therein indicative of type of consumable.
- 32. The method of claim 31, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first memory coupled to a first consumable that is a receiver media consumable, wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is a print head consumable and wherein the step of providing a third transponder comprises the step of providing a third transponder including a third memory coupled to a third consumable that is a cleaning fluid consumable.
- 33. The method of claim 31, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first memory coupled to a first consumable that is a printhead consumable, wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is an ink consumable and wherein the step of providing a third transponder comprises the step of providing a third transponder including a third memory coupled to a third consumable that is a cleaning fluid consumable.

34. The method of claim 31, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first memory coupled to a first consumable that is a printhead consumable, wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is an ink consumable and wherein the step of providing a third transponder comprises the step of providing a third transponder including a third memory coupled to a third consumable that is a receiver media consumable.

- 35. The method of claim 31, further comprising the step of providing a fourth transponder including a fourth memory coupled to a fourth consumable, the fourth memory having data stored therein indicative of type of consumable.
- 36. The method of claim 35, wherein the step of providing a first transponder comprises the step of providing a first transponder including a first memory coupled to a first consumable that is a printhead consumable, wherein the step of providing a second transponder comprises the step of providing a second transponder including a second memory coupled to a second consumable that is an ink consumable, wherein the step of providing a third transponder comprises the step of providing a third transponder including a third memory coupled to a third consumable that is a receiver media consumable and wherein the step of providing a fourth transponder comprises the step of providing a fourth transponder including a fourth memory coupled to a fourth consumable that is a cleaning fluid consumable.
- 37. The method of claim 19 and wherein the transponder receives energy from the first electromagnetic field as the only energy for powering the transponder.
- 38. The method of claim 37 wherein a device associated with the consumable has a sensing mechanism, and the sensing mechanism accurately indicates the amount of consumable used or remaining and this amount is stored in the memory.

- 39. The method of claim 37 and wherein the transceiver communicates with the transponder without making touching contact with the transponder.
- 40. The method of claim 37 and wherein the memory is a non-volatile semiconductor memory that is integrally contained in the transponder.
- 41. The method of claim 37 and wherein the transceiver senses the second electromagnetic field and extracts the data content for subsequent processing in operating the printer.
- 42. The method of claim 37 and wherein the transceiver addresses the transponder to write data to the memory associated with the consumable and wherein the data is indicative of usage of the consumable.
- 43. An ink container including an ink consumable for use in a printer and the container including a transponder and memory specially adapted for use in the method of claim 19 and wherein the memory is coupled to the transponder and has data stored therein and uniquely associated with a consumable used in the printer, the transponder being adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the code indicating a read or write command for the memory, the energy being usable in accordance with a read code to generate a signal representing data stored in the memory about the consumable for sensing by the transceiver and for a write code to write information into the memory providing an update of the amount of consumable used or remaining, and the memory storing an update of the consumable used from or remaining in the container.
- 44. The method of claim 37 and wherein in response to the information carried by the second electromagnetic field a control logic in the printer determines the type of consumable that is loaded in the printer.

45. The method of claim 44 and wherein the control logic determines manufacturing date and batch number from the information carried by the second electromagnetic field.

- 46. The method of claim 37 and wherein the memory stores calibration data relative to the consumable.
- 47. The method of claim 37 and wherein the memory stores sensitometric data relative to the consumable.
- 48. The method of claim 37 and wherein a determination is made as to whether or not a print job is compatible with the consumable, and if the print job is not compatible with the consumable print operation is disabled.
- 49. The method of claim 37 and wherein the consumable is a container for storing a waste material and the memory provides information relative to identification of the material as an aid to environmentally acceptable disposal of the waste material.
- 50. In a printer which operates to selectively deposit a color marking material onto a receiver to form an image on the receiver, a method for sensing data uniquely associated with a waste material containing container loaded into the printer, the method comprising the steps of:
- (a) operating a transceiver to transmit a first electromagnetic field, the first_electromagnetic field including a code providing a command to read or write data; and
- (b) providing a transponder associated with the container, the transponder including a memory, the transponder receiving the first electromagnetic field and generating a second electromagnetic field in response to the code in the first electromagnetic field that provides a command to read data from the memory, the second electromagnetic field carrying information relative to data stored in the memory, the memory being coupled to the transponder and having the data stored therein and uniquely associated with the waste material in the container, and the transponder in response to a code providing a command to write data provides a

signal to the memory to apply information from the first electromagnetic field into the memory.

- 51. The printer of claim 50 and wherein the first electromagnetic field includes data regarding a current level of waste material in the container and the current level of waste material in the container is written into the memory.
- 52. The method of claim 19 and wherein the first electromagnetic field includes data regarding a current level of ink consumable and the data regarding current level of ink consumable is written into the memory.
- 53. The method of claim 19 and wherein the transceiver is blocked from overwriting of certain stored data in the memory.
- 54. A printer of the type which selectively deposits color marking material onto a receiver sheet to form an image on the receiver sheet, the printer being adapted to sense data uniquely associated with a receiver sheet consumable loaded into the printer, the printer comprising:
- (a) a transceiver for transmitting a first electromagnetic field and for sensing a second and electromagnetic field, the first electromagnetic field containing data for writing into a memory associated with the receiver sheet consumable;
- (b) a transponder coupled to a sheet-like member that is part of a stack of discrete receiver sheets loaded in the printer, the discrete receiver sheets comprising the consumable, said transponder adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby, the transponder adapted to receive the energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory; and
- (c) the memory associated with the receiver sheet consumable, the memory being coupled to said transponder, said memory having data stored therein uniquely associated with the receiver sheet consumable, whereby the second electromagnetic field carries the data stored in said memory while the second

electromagnetic field is generated, the second electromagnetic field being characteristic of the data stored in said memory.